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PATENT

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TRANSMITTAL OF PATENT APPLICATION FOR FILING

Dear Sir:

Transmitted herewith for filing is a patent application of:

Inventor(s): Sam Denovich and James W. Robertson

For: Combination Telephone Network Interface Device And Cable TV Splitter

Enclosed are papers, identified as follows:

- X Specification and Claims
X Declaration or Oath and Petition, Power of Attorney
 _____ To follow if this line is checked
2 Sheets of Drawings
X Informal if this line is checked
 _____ Certified Copy of Priority Document

_____ This application claims the benefit under 35 USC §119(e) of a prior U.S. Provisional Application. Please amend the Specification by inserting, before the first line, the following sentence:

"This application claims the benefit of U.S. Provisional Application(s) No(s). , filed ."

An Assignment is:

- X enclosed, signed by the inventor and the requisite cover sheet therefor; or
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A filing fee is calculated as follows:

Basic Fee	=	\$ 710
Total Claims <u>17</u> minus 20 = * <u>0</u>	X \$ 18 =	\$ 0
Independent <u>3</u> minus 3 = * <u>0</u>	X \$ 78 =	\$ 0
Fee for Multiple dependent claims.....	\$ 260 =	\$ 0

Filing Fee, Charge to Deposit Account No. 23-1950..... \$ 710

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Respectfully submitted,

By

Robert J. Kapalka

Registration No. 34198

Tyco Technology Resources

4550 New Linden Hill Road, Suite 450

Wilmington, DE 19808-2952

Attorney for Applicant(s)

Phone: (302) 633-2771

Facsimile: (302) 633-2776

RJK/pmc

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COMBINATION TELEPHONE NETWORK INTERFACE
DEVICE AND CABLE TV SPLITTER

5 BACKGROUND OF THE INVENTION

 The present invention relates to a combined telephone network interface device and cable TV splitter.

 Various network interface devices are known in the
10 art. Such devices typically include an enclosed housing located outside the home of a telephone and/or cable television subscriber. Connectors are provided on one side of the housing for incoming telephone and cable television service. On the other side of the housing,
15 connectors are provided for individual phone and cable television hookups for telephone and cable television subscribers. Typically, the side containing the connectors for incoming service includes a cover which can be locked to prevent access to that side by anyone
20 other than the telephone and cable television company. The other side of the housing is typically accessible by the subscriber. Examples of such devices are shown in U.S. Patent No. 5,632,542, U.S. Patent No. 5,583,931 and U.S. Patent No. 5,600,717, all to Schneider, et al.

25 According to one embodiment of the present invention a telephone and cable television network interface device includes a first housing having first and second compartments, a terminal located in the first compartment for connection to telephone service, a terminal located
30 in the second compartment for connection to a telephone of a telephone service subscriber, a cover for restricting access to the first compartment and a cable television splitter. The splitter is located in the first housing and includes a second housing spanning the

first and second compartments. A plurality of coaxial cable connectors, all facing the same direction, are located in the second housing. At least one connector is located in each of the compartments. The first housing
5 includes a plurality of grooves aligned with the coaxial cable connectors. In one embodiment, the longitudinal axis of each of the coaxial cable connectors is located in the same plane. The device may also include a ground bus located in the first housing. The cable television
10 splitter includes a mounting tab securing the splitter to the ground bus.

In another embodiment of the present invention, a telephone and cable television network interface device includes a first housing having first and second
15 compartments, a first terminal located in the first compartment for connection to telephone service, a second terminal located in the second compartment for connection to a telephone, a cover for restricting access to the first compartment and a cable television splitter located
20 in the first housing. The splitter includes a second housing having a first portion located in the first compartment and a second portion located in the second compartment. At least one coaxial cable connector is located in the first portion of the second housing. A
25 plurality of second coaxial cable connectors is located in the second portion of the second housing. Each of the connectors has a longitudinal axis, all of which are parallel.

In another embodiment of the invention, a
30 telephone and cable television network interface device includes a first housing having first and second compartments, a terminal located in the first compartment for connection to telephone service, a terminal located in the second compartment for connection to a telephone

and a cover for restricting access to the first compartment. The first housing further includes an opening defining a plane. The device further includes a cable television splitter located in the first housing, the splitter having a second housing spanning the first and second compartments. At least one coaxial cable connector is located in the second housing and in the first compartment. A plurality of second coaxial cable connectors are located in the second housing and in the second compartment. Each of the coaxial cable connectors has a longitudinal axis perpendicular to the plane defined by the opening in the first housing.

These and other features of the invention will become more apparent and the invention will be better understood upon reference to the following description of the invention in conjunction with the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a perspective view of a combination network interface device and cable television splitter according to one embodiment of the present invention.

Figure 2 is a perspective view of the device shown in Figure 1 with the cover preventing access to the provider side of the device in the closed position.

Figure 3 is a front elevational view of the cable TV splitter that is a component of the device shown in Figure 1.

Figure 4 is a top plan view of the cable TV splitter shown in Figure 3.

DETAILED DESCRIPTION OF EMBODIMENTS

The embodiments of the invention described herein are not intended to be exhaustive or to limit the invention to the precise forms disclosed. Rather, the embodiments selected for description have been chosen to enable one skilled in the art to practice the invention.

Figure 1 is a perspective view of a combination network interface device and cable TV splitter according to one embodiment of the present invention. The device generally includes housing 10, telephone terminal module 20 and splitter 30.

Housing 10 generally includes a first housing portion 11, a first cover 12, a second cover 13, and a first latch including portions 14a and 14b. First housing portion 11 includes a first compartment 11a, a second compartment 11b, and an opening 11c. First cover 12 and second cover 13 are secured to first housing portion 11 by a hinge 15. Housing 10 further includes a first gasket portion 16a located in cover 12 and a second gasket portion 16b located in first housing portion 11. First housing portion 11 further includes a groove 17 and a ground strip or bus bar 18. First housing portion 11 includes a plurality of grooves 16c located adjacent gasket portion 16b. Second cover 13 includes openings 17a to accommodate cables 40.

Module 20 generally includes a first set of terminals 21, a second set of terminals 22, a third set of terminal 23, and mounting opening 24. Terminals 21 are connected to incoming telephone service. Terminals 22 are connected to the telephone subscribers' telephones. Terminals 23 are used for testing. Openings 24 are used to mount module 20 to housing 11 by inserting a fastener therethrough.

Cable TV splitter 30 includes a housing 31, a first coaxial cable connector 32 located at one end of housing

31, a plurality of coaxial cable connectors 33 extending from the same side of housing 31 as coaxial cable connector 32, a mounting tab 34 including an opening 34a therein and a projection 35 extending from housing 31.

5 Note that each coaxial cable connector 32 and 33 includes a longitudinal axis 32a, 33a, respectively. Axes 32a and 33a lie in a common plane 36, as shown in Figure 3. Additionally, axes 32a and 33a are parallel, as shown in Figure 4. Note that the splitter 30 can be used for
10 cable television service, connection to data lines and other uses. The term "splitter" or "cable TV splitter," as used in this application, is intended to cover splitters for performing any and all of these various functions.

15 In use, cable TV splitter 30 is placed in first housing portion 11 such that projection 35 engages groove 17. Mounting tab 34 is positioned on bus bar 18 and secured thereto by inserting a screw or similar fastener through opening 34a. In this manner, cable TV splitter
20 30 is grounded to bus bar 18. When installed in first housing portion 11 in this manner, housing 31 of cable TV splitter 30 spans first compartment 11a and second compartment 11b. Coaxial cable connector 32 is located in first compartment 11a and the remaining coaxial cable
25 connectors 33 are located in second compartment 11b. In this position, coaxial cable connectors 32 and 33 are aligned with grooves 16c in first housing portion 11. Cables 40 and 41 may be secured to first housing portion 11 by wrapping a cable tie or similar device around
30 cables 40 and 41. This provides strain relief for cables 40 and 41. Gasket portions 16a and 16b seal opening 11c in housing 10 when first cover 12 is closed. Incoming cable television service is provided by connecting a first cable 40 to coaxial cable connector 32. Outgoing

service to subscribers' televisions is provided by connecting additional cables 41 to coaxial cable connectors 33. Note that in this embodiment, connectors 32 and 33 are positioned in first housing portion 11 such that (1) axes 32a and 33a are parallel, (2) axes 32a and 33a all lie in the same plane 36, and (3) axes 32a and 33a are perpendicular to the plane defined by opening 11c in first housing portion 11. Note that the combined network interface device and cable TV splitter of the present invention allows cables 40 and 41 to extend directly into first housing portion 11 and connect to coaxial cable connectors 32 and 33 without being bent or otherwise displaced. This arrangement of coaxial cable connectors 32 and 33 allows cables 40 and 41 to all enter and exit the device from the same side.

Figure 2 shows the device of Figure 1 with second cover 13 in the closed and locked position. In this position, cables 40 and 41 are sandwiched between gasket portions 16a and 16b. Note that second cover 13 prevents access to telephone terminals 21 and coaxial cable connector 32. However, the device permits access to telephone terminals 22 and coaxial cable connectors 33. In this manner, the subscriber can open first cover 12 and have access to terminals 22 and connectors 33 but will not have access to terminals 21 and connector 32. Any of a number of known locking or latching mechanisms may be utilized to secure second cover 13. Alternatively, various devices, such as locking straps that must be cut to be removed, may be utilized to secure second cover 13. With such devices, it will be readily apparent to the telephone service provider if another party has opened second cover 13. First cover 12 can be closed and latched in the conventional manner. A typical latching mechanism is a screw or other threaded device

that will secure first cover 12 in a closed position but permit easy access to the interior of first housing portion 11.

Although the present invention has been shown and
5 described in detail, the same is to be taken by way of
example only and not considered a limitation on the
invention. Numerous changes to the embodiment described
will be apparent to those of skill in the art. For
example, it is not necessary that axes 32a and 33a lie in
10 the same plane. The connectors could be staggered to
increase the density of the connectors. Accordingly, the
scope of the invention is to be limited only by the terms
of the claims appended hereto.

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Claims

What is claimed is:

1. A telephone and cable television network interface device, including:

a first housing having a first compartment and a second compartment;

a first terminal, located in the first compartment, for connection to telephone service;

a second terminal, located in the second compartment, for connection to a telephone of a telephone service subscriber;

a cover for restricting access to the first compartment by the telephone service subscriber;

a cable television splitter located in the first housing, the splitter including a second housing spanning the first and second compartments; and

a plurality of coaxial cable connectors located in the second housing, at least one of the coaxial cable connectors being located in the first compartment and at least one of the coaxial cable connectors being located in the second compartment, each of the coaxial cable connectors facing the same direction.

2. A device according to claim 1, wherein only one coaxial cable connector is located in the first compartment and at least two coaxial cable connectors are located in the second compartment.

3. A device according to claim 1, further including a plurality of grooves in the first housing and

wherein each of the coaxial cable connectors is aligned with one of the grooves.

4. A device according to claim 1, wherein the longitudinal axis of each of the coaxial cable connectors is located in the same plane.

5. A device according to claim 1, further including a ground bus located in the first housing and wherein the cable television splitter includes a mounting tab securing the splitter to the ground bus.

6. The device according to claim 1 wherein the housing includes an opening and the longitudinal axes of the coaxial cable connectors are perpendicular to the plane defined by the opening.

7. A telephone and cable television network interface device, including:

a first housing having a first compartment and a second compartment;

a first terminal, located in the first compartment, for connection to telephone service;

a second terminal, located in the second compartment, for connection to a telephone;

a cover for restricting access to the first compartment;

a cable television splitter located in the first housing, the splitter including a second housing having a first portion located in the first compartment and a second portion located in the second compartment;

at least one coaxial cable connector located in the first portion of the second housing;

a plurality of second coaxial cable connectors located in the second portion of the second housing; and

wherein each of the coaxial cable connectors has a longitudinal axis and the longitudinal axes of all of the coaxial cable connectors are parallel.

8. A device according to claim 7, wherein the coaxial cable connectors face the same direction.

9. A device according to claim 7, further including a plurality of grooves in the first housing and wherein each of the coaxial cable connectors is aligned with one of the grooves.

10. A device according to claim 7, wherein the longitudinal axis of each of the coaxial cable connectors is located in the same plane.

11. A device according to claim 7, further including a ground bus located in the first housing and wherein the cable television splitter includes a mounting tab securing the splitter to the ground bus.

12. The device according to claim 7 wherein the housing includes an opening and the longitudinal axes of the coaxial cable connectors are perpendicular to the plane defined by the opening.

13. A telephone and cable television network interface device, including:

a first housing having a first compartment and a second compartment;

17. A device according to claim 13, wherein the axes of each of the coaxial cable connectors are parallel.

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ABSTRACT

A telephone and cable television network interface device includes a first housing having first and second
5 compartments, a terminal located in the first compartment for connection to telephone service, a terminal, located in the second compartment for connection to a telephone of a telephone service subscriber, a cover for restricting access to the first compartment and a cable
10 television splitter. The splitter is located in the first housing and includes a second housing spanning the first and second compartments. A plurality of coaxial cable connectors, all facing the same direction, are located in the second housing. At least one connector is
15 located in each of the compartments. The first housing includes a plurality of grooves aligned with the coaxial cable connectors. In one embodiment, the longitudinal axis of each of the coaxial cable connectors is located in the same plane. The device may also include a ground
20 bus located in the first housing. The cable television splitter includes a mounting tab securing the splitter to the ground bus.

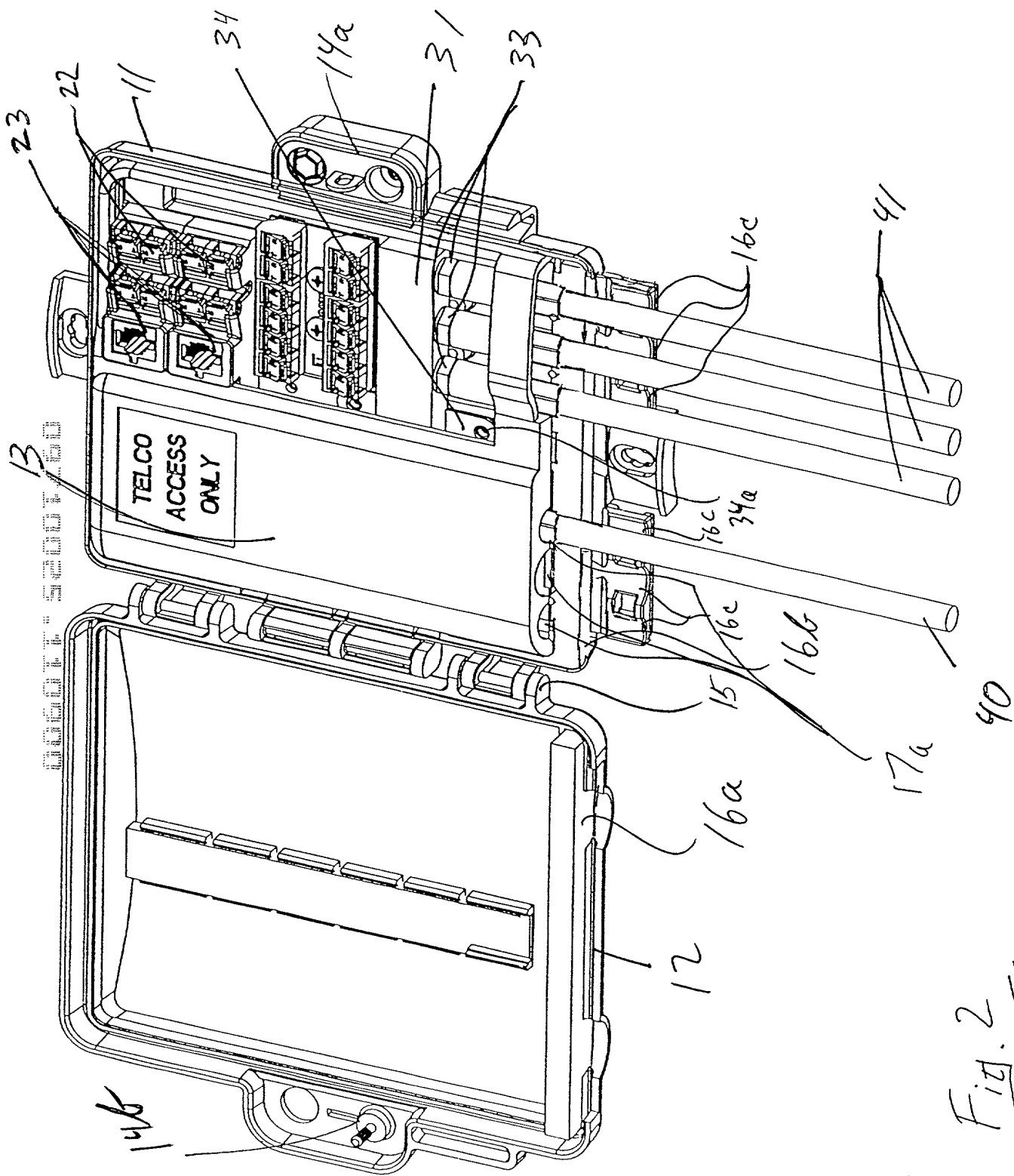


Fig. 2

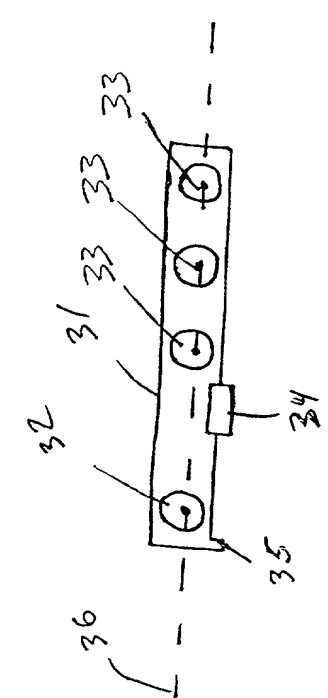
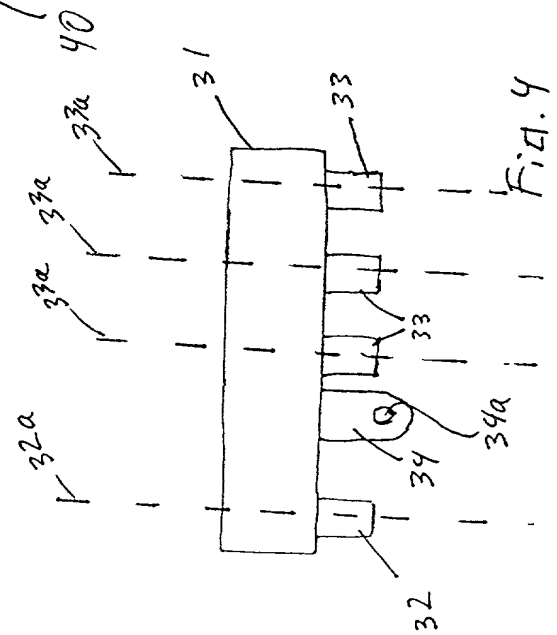
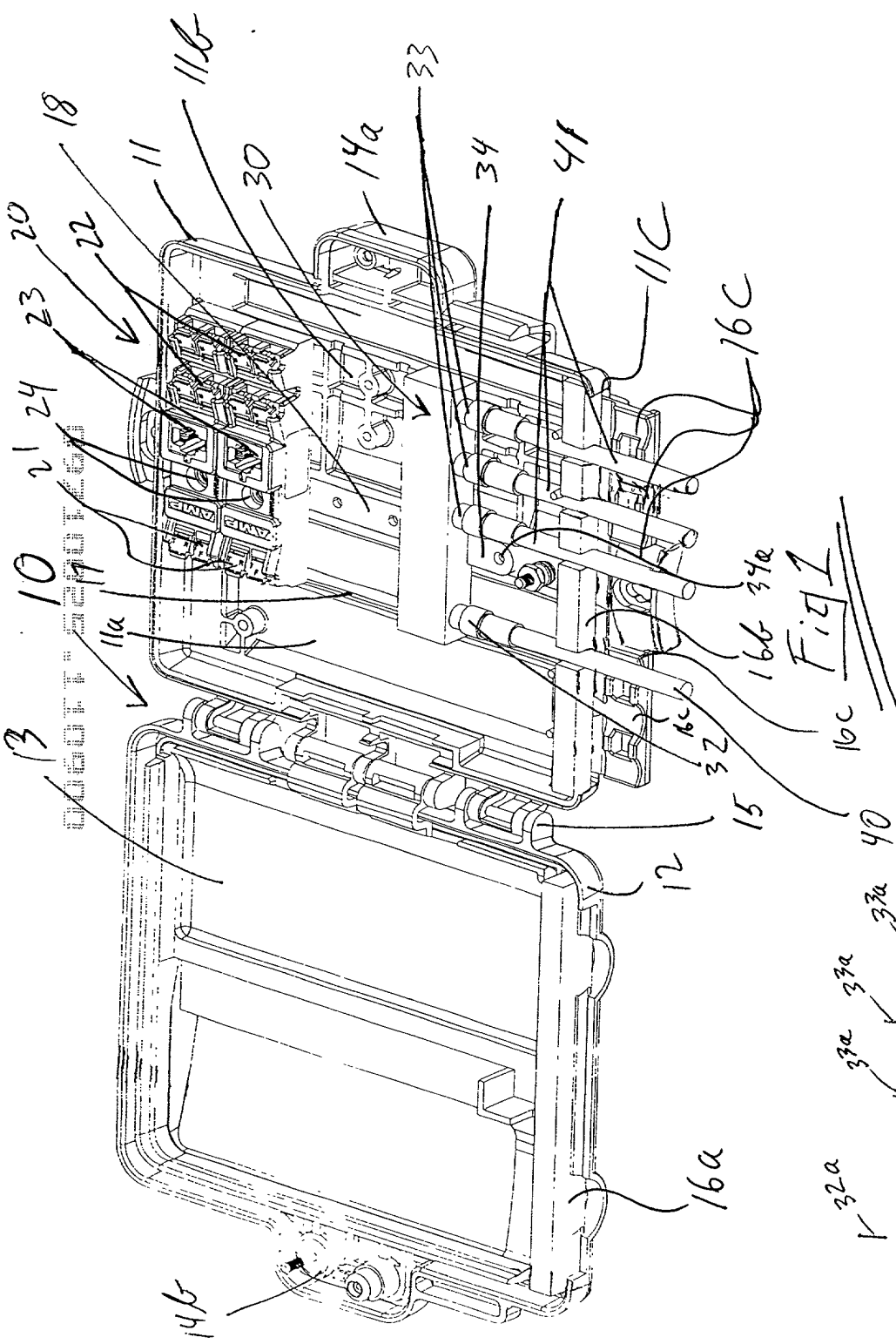


Fig. 3

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Docket No. 17571

DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I hereby declare, of my own knowledge or on information and belief, that:

My residence, post office address and country of citizenship are as stated below next to my name;

I am the original, first and sole inventor, if only one inventor is identified below, or an original, first and joint inventor, if more than one inventor is identified below, of the subject matter which is claimed and for which a patent is sought and which is entitled:

COMBINATION TELEPHONE NETWORK INTERFACE
DEVICE AND CABLE TV SPLITTER

and which is described and claimed:

 X in the attached application including specification
and claims if this line is marked, or
 in the original specification and claims filed
on as U.S. Patent Application
Number or PCT International Application
Number .

I have reviewed and understand the contents of the specification and the claims;

I acknowledge the duty to disclose information which is material to the examination of the application in accordance with 37 CFR §1.56(a). The text of 37 CFR §1.56(a) states,

"A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is canceled or withdrawn from consideration need not be submitted if the information is not

DECLARATION

TWC REV. 01/96

[illegible]

Provisional Application No.: _____
Filing Date: _____

U.S. Serial No.: _____
U.S. Filing Date: _____ Status: _____

U.S. Serial No: _____
U.S. Filing Date: _____ Status: _____

I claim foreign priority, pursuant to 35 USC §119(a)-(d) of an application for patent or inventor's certificate, and identify below said application (if any is identified) and any such foreign application (if any is identified) having a filing date before that of the application on which foreign priority is claimed;

TWC REV. 01/96

I hereby declare that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true, and I am warned that willful false statements and the like are punishable by fine or imprisonment, or both, (18 USC §1001) and may jeopardize the validity of the application or any patent issuing thereon.

I hereby appoint Michael J. Aronoff (Registration No. 37770), Brian K. Dinicola (Registration No. 36122), Bradley N. Ditty (Registration No. 40994), Robert J. Kapalka (Registration No. 34198), Driscoll A. Nina, Jr. (Registration No. 34685), and Mark K. Young, (Registration No. 38666) and whose post office address is: The Whitaker Corporation, 4550 New Linden Hill Road, Suite 450, Wilmington, DE 19808-2952, or their duly appointed associate, my attorneys or agents with full powers of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the Letters Patent, and to transact all business in the U.S. Patent and Trademark Office in connection therewith.

Direct all correspondence to the address:

Tyco Technology Resources
4550 New Linden Hill Road
Suite 450
Wilmington, Delaware 19808-2952

Sam Denovich

Full Name of First Inventor

Sam Denovich

Inventor's Signature

11/8/00

Date

USA / 2416 Wicklow Drive, Harrisburg, PA 17112

Citizenship / Residence

2416 Wicklow Drive, Harrisburg, PA 17112

Post Office Address

James W. Robertson

Full Name of Second Inventor (If Any)

James W. Robertson

Inventor's Signature

11/8/00

Date

USA / 4600 Carrollton Drive, Harrisburg, PA 17112

Citizenship / Residence

4600 Carrollton Drive, Harrisburg, PA 17112

Post Office Address